NEW YORK STATE MECHANIC.

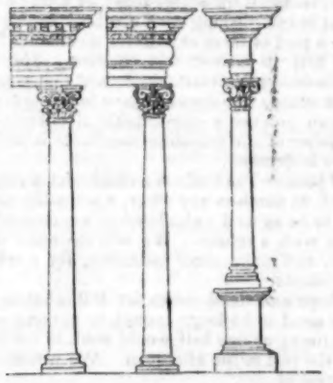
A Journal of Science, Literature, the Mechanic Arts, Manufactures, News, &c.

VOL. II. ALBANY, MARCH 18, 1843. No. 17.

CIRCLE OF THE MECHANIC ARTS.

No. XIV.

ARCHITECTURE.—NO. X.



Corinthian order. Composite order. Combination of both.

Composite order.—The Composite or Roman order, seems to owe its origin to that constant solicitude after novelty, which ever renders the mind of man restless in enlightened and highly cultivated ages. The desire of variety and novelty, either of new invention, or combination, probably engaged the Roman architects to unite with the proportions and enrichments of the Corinthian order, the angular volute of the Ionic, and by this union to compose a new order. The introduction of the angular Ionic volute, and the omission of the upper row of leaves in the capital, certainly give it a more bold and noble aspect than that of the Corinthian capital, yet different from any of the other orders possessing an elegance and projection very pleasing, and may be used with very agreeable and happy effects. There are many examples remaining now at Rome, which show the general estimation of this order, in the height of its splendor and prosperity. The proportion adapted to it by the moderns, are as follows: the height of the column is twenty modules; and that of the entablature five modules; the capital has seventy minutes in height; the base measures the same as in the Doric and Ionic orders; and, as the module is less, all its parts will of course be more delicate; the shaft may be enriched with flutings to the number of twenty or twenty-four, as in the Ionic order; there is no reason why they should be augmented. The principle members of the entablature may have the same proportions as the two former orders, viz. being divided into ten equal parts, three are for the height of the architrave, three for the frieze, and four for the cornice.

It has been contended, that, strictly speaking, there are only three orders in the architrave, namely, the Doric, Ionic, and Corinthian; the other two viz. the Tuscan and Composite, being only varieties. And perhaps it would simplify and facilitate the study of architecture, were this restriction universally to take place. The only circumstance that can serve to distinguish one order from another, are the form of the column and its destination. Destination leads us to distinguish three kinds of orders; one plain and strong, for the purpose of supporting plain and massy buildings; one delicate and graceful, for sustaining buildings of that character, and between these a third, for supporting buildings of a mixed nature.

By examining the antiques, it will be found, that, in all their profiles, the cyma and the cavetto are constantly used as finishings, and never applied where strength is required; that the ovolo and talon are always employed as supporters to the essential members of the composition, such as the modillions, dentiles, and corona; that the chief use of the torus and astragal, is to fortify the tops and bottoms of columns, and sometimes pedestals, where they are frequently cut in the form of ropes; and that the scotia is employed only to separate the members of bases, for which purpose the fillet is also used, not only in bases, but in all kinds of profiles. An assemblage of essential parts and mouldings, is termed a profile; on the choice, disposition, and proportion of these, depends the beauty or deformity of the profile. The most perfect are, such as are composed of few mouldings, varied both in form and size, fitly applied with regard to their uses, and so disposed, that the straight and curved ones succeed each other alternately. In every profile there should be a predominant member, to which all the others ought to be subservient, and seem made either to support, to fortify, or shelter it from the injury of the weather, as in a cornice where the corona is principal, the cyma or cavetto cover it, and the modillions, dentiles, ovolo, and talon support it.

When ornaments are employed to adorn the mouldings, some of them are left plain, in order to form a proper repose; for, when all are enriched, the figure of the profile is lost. In a cornice the coronna, should not be ornamented, nor the modillion band; neither should the different facias of architraves, the plinths of columns, fillets, nor scarcely any square member, be carved; for they are generally speaking, either principal in the composition, or used as bounderies of other parts; in either of which cases, their figures should be distinct and unembarassed. The dentile band should remain uncut, where the ovolo and talon immediately above and below it are enriched; for when the dentiles are marked, particularly if they be small, the three members are confounded together, and, being covered with ornament, are much too rich for the rest of the composition; a fault carefully to be avoided, as the just and equal distribution of enrichments is on all occasions to be attended to. For, in effect, the ornaments of sculpture in architecture, are like diamonds in a lady's dress, with which it would be absurd to cover her face, and other parts that are in themselves beautiful. It is farther to be observed, that the ornaments must partake of the character of the order which they enrich; and those used in the Doric and Ionic orders must be of a simpler kind, and grosser make, than those employed in the Composite and Corinthian. In the exterior, whatever does not contribute to the general effect of the whole building, is in a great measure useless, and an expense that might more judiciously be employed in places where it could be more attended to.

The right hand column represented above, is a combination of the column with a pedestal, and a squared portion of the entablature, usually attached to the main edifice by one side. This peculiarity was introduced, says Bigelow, after the arts had begun to decline, and appears in many of the later Roman edifices. It has been absurdly imitated in more modern times, by making a squared entablature to constitute a portion of the column, and placing another entablature above it.

THE LABORING CLASSES OF EUROPE AND AMERICA.

Extract from an Address before the Albany County Mechanic's Association.

BY E. C. SQUIER.

When I use the term *laboring classes*, I do so for want of a better, and wish to be understood merely as referring to that portion of the American people engaged in agriculture, manufacturers and the trades, in contradistinction to those engaged in commerce, the liberal professions, &c. I take this comprehensive title, although I intend to speak more particularly to the Mechanic and Manufacturer, for reasons that will be better understood as we progress with our subject.

In the consideration, then, *of the social, political and intellectual condition of the laboring classes of America, and their true interests*, the first point that suggests itself to our attention, is the high position they occupy in our social organization, as contrasted with other portions of the globe. The consideration of this point, I need scarcely add, will involve the important question, How can this high station be maintained and improved?

First, the social and political condition of the American laborer; and here, at the very outset, we are met by a difficulty, very similar to the one to which I have already adverted in selecting a title for my remarks. The principles of American civilization, and of the social organization of the American people are not generally understood. The causes too, that have led to the present arrangement of American society, and the modification that arrangement must undergo before it can be perfected—a subject at all times of grave and commanding importance, is especially so at this time, when errors in relation to it very extensively prevail.

I have said that certain divisions and classifications must and will exist in every society; but the grounds upon which these divisions are based and the causes which produce them, should be attentively examined before deciding whether they are the result of natural laws and therefore correct, or of artificial or forced enactments and therefore incorrect and improper. Now instead of doing this, many of our own people, who have derived their ideas of these classes, not from a fair and enlarged view of their condition in this country, but from what they have heard or read of them in other countries and other times, entertain very incorrect notions of their relative influence and importance in American society. But in the words of another, the difference between the condition and relations of these classes here and in the old world, is as wide as the ocean that separates us—their position in the social scale is as entirely di-

tinct, as infinitely superior as the principles upon which our whole social system is built. It is universally conceded that the condition of the laboring classes here is superior to that of any portion of the globe, but the causes of this difference are nor generally understood; and because they have not yet attained to that high station, to which even here they should aspire, and to which they may arrive, many well-designing persons are busying themselves in endeavoring to detect some remnant of European policy, some trace of those principles which like festering seeds of corruption have diseased the very vitals of European society, and which they imagine is the retarding object to our advancement. But in order that we may fully understand their true condition here, and thus correct these mistaken views and adopt just principles of thought and action, we will briefly glance at the condition of the laboring classes of Europe and America as members of the great social body. We will then discover the entire dissimilarity that exists in every respect between them, in whatever light they may be considered.

Society here is framed on principles bearing no resemblance to those upon which it is founded in the old world. The circumstances that attended its organization were if possible more dissimilar than the principles and elements that entered into its composition. The fires of civil and religious freedom burned brightly in the midst of the little band of pilgrims when they embarked upon the perilous western sea—it left a luminous track upon the stormy ocean, and blazed a towering beacon light upon the rock of Plymouth. And that glorious track millions of free spirits have followed, and millions of free spirits have hailed the beacon light of our pilgrim fathers! Unconquerable zeal and irrepressible energy were prominent traits in the characters of the early emigrants; the principles of freedom were fully developed and clearly understood. American society *then* began. It has had no infancy; it has passed through no centuries of darkness, nor ages of twilight and scarce perceptible advancement, but like Minerva from the head of Jove, sprung forth full armed and glorious in the proud strength of manly vigor.

The pilgrims found themselves not the amenders or modifiers of any existing form of society; they were bold untramelled originators, and if their new organization bore any resemblance to that of the old world, it was a resemblance not of its worse, but of its better features. Those time-sanctioned institutions and customs and deep-rooted prejudices, which have been and still continue to be insuperable barriers to the progress of European society, had little or no influence here; indeed if they exercised any it soon vanished in the new life and busy scenes to which the hardy pioneers of Liberty were called; or were soon rejected as unworthy of entering into this new and glorious structure. Liberal principles—freedom of thought, equality of rights—were maintained under the new covenant.

No man, whatever his condition, was debarred from the free exercise of his rights and privileges—no distinction of condition save those which superior talents, endowments or application gave, were recognized; and whatever man's station or employment, these were the only requisites to eminence and renown. These were the principles established by the first emigrants to our shores; these were the principles which they bequeathed, and which our fathers secured to us in the war of the Revolution. The charter which they baptized with their blood, and sealed with their lives, is recorded in the high court of Heaven, among the archives of eternity.

Not so with European society. The history of its origin is dark and stormy. It sprung from chaos; its elements were confused and discordant. Its birth was in darkness and terror and blood. Terrible were the scenes through which it passed, dreadful the record of its sufferings. During the dark ages that followed the subversion of the Roman Empire, society and mankind sunk to the lowest point of degradation. Anarchy and discord, civil commotion and foreign invasion, all contributed to deepen the darkness of that period. And it was then in the midnight of the world, in those bloody and barbarous times that those institutions were firmly established, which the lapse of fifteen centuries and all the efforts of outraged and insulted humanity have failed to overturn; and which still exist, in some form or other, unnatural distinctions, deadening the aspirations of the free spirit, and confining the man within barriers, which God and Nature never intended should exist. I need not recount to you what those institutions were. I need not point you to the feudal system, which resulted in the permanent establishment of a privileged and titled aristocracy, or to those assumptions and encroachments which power—imperious and selfish power, made from time to time upon the rights and privileges of mankind. These form ample materials for the page of the historian and for the consideration of the philosopher. It is enough for our purpose to know that the laborer of Europe is still a slave; that even our miscalled mother country, with whose institutions we are best acquainted—notwithstanding all her boasts of freedom, still presents a striking example of the mental and physical degradation of the laboring classes. She claims to stand preeminent in the ranks of civilization—she boasts of her institutions and laws, yet with her shouts of exultation is mingled the groan of agony! While the sound of revelry rings in her proud and magnificent palaces, the wail of sorrow and lamentation is heard in her wretched cottages; and while the cannon thunders its loud tones for the birth of a royal heir, the babe of the poor mother shivers on her breast, and with white and trembling lips supplicates for the nourishment it cannot obtain! Yes, England, claiming to be the freest, most enlightened nation on the globe, with all her glory, is degraded; her escutcheon is stained and dark; her soil is wet with the tears of her children!

From the Prairie Farmer.

A SCHOOL FOR MECHANICS.

From the great and rapid strides that have been made in mechanics, during the present age, it is stange so little has been done to educate men thoroughly for the business —Colleges have been founded and funded in all parts of our country, to educate lawyers, physicians and priests, whilst very little attention has been paid to the education of mechanics. A professor of the former class stands but a small chance of becoming eminent, unless he is well educated; and the high standing attained by the professions is mostly to be attributed to their superior education as a class.

The Physical necessity and usefulnsss of labor in a mechanic's School—Our colleges are not adapted to the education of a mechanic; he learns no trade in them, and in a measure physically disqualifies himself for labor afterwards. I believe the fact to be too well established to require argument, that if a man is to be raised for labor, he must labor while raising; that the proverb "train up a child in the way he should go," is as pertinent physically as morally, and that a school to be properly adapted to mechanics, should therefore exercise their bodies as well as minds; that a portion of each day may be devoted to labor and the learning of a trade, and as much learned in science as though the whole time was devoted to study; and that a trade would be much better learned by devoting one half of each day to it(under the best of masters) from the age of 16 to 21, than by the usual mode of instructing apprentices.

The ayvantages to be derived from such schools.—There can be no good ground to doubt that mechanics thoroughly educated on this plan, would derive as much benefit and improvement as professional men receive from a similar period occupied in their education, and they would be fitted to take and hold rank in the highest society. The statesman or lawyer would be as proud of, and as much benefitted by the society of the learned mechanic as the mechanic would be by them. And as mechanics improved in thoroughly studying the arts and sciences, we could but expect a corresponding improvement in the works of their hands. And when we look back and see the great advances made in mechanical science during the present generation, what might we expect from the generation to come, if we do our best to instruct them.

Its practicability.—I can conceive nothing in the way of establishing such a school but the funds to start it. The first expenses would necessarily be more than a common school, or college, as workshops, machinery and tools would be necessary in addition; but when once in operation, the mechanic's school might be made a source of profit, whilst the other is an expense forever. And further, such a school would set interest mechanic alone. Look to the professional man with a family of half a dozen boys; would he wish to educate them all for professions, or would he rather assist in establishing such a school as this to educate a part of them at least for mechanics? Facts will help to answer this question. The learned professions are overstocked; and that young man is fortunate, who does not have to toil years before he can procure a comfortable livelihood—whilst the labor of the scientific mechanic is almost always in demand.

A plan.—The trade of a machinist seems to demand, as much as any other, a scientific education and to be as well calculated to accommodate the labor with a school. We will therefore sketch a plan, and make some estimates, for a school for machinists.

Shops and shool-rooms for 100 scholars, would only need to be large enough to accommodate 50 at a time; as one half would work in the forenoon and the rest in the afternoon. We would estimate the cost of

work-shops, steam engine and tools,	$17,000
school buildins, teachers and boarding houses,	10,000
stock to commence work with,	3,000
	$30,000

Apprentices to be taken at 14 years of age, who have a good common school education, and to furnish their own clothing. The board, lodging and washing to be furnished by the school, but to be paid for by the scholars as follows, viz: $120 for the first year; second, 100; third, 80; fourth, 60; fifth, 34; sixth, 0; the seventh year to be repaid $30. Thus, each scholar would pay $364, or one dollar a week. The labor would be worth,

For first year,	2s.	per day,	260 days,	$62,50
second "	3s.	"	"	93,75
third "	4s.	"	"	125,00
fourth "	5s.	"	"	156,25
fifth "	6s.	"	"	187,50
sixth "	7s.	"	"	218,75
seventh "	8s.	"	"	150,00

Whole value of labor for seven years, $1093,75
Average value of labor per year, $156,25
Labor of 100 scholars per year would be $15,625,00
This sum would be sufficient to pay

Interest on investment of $30.00, at 6 per cent.	$1800.00	
President and teachers' sal.	5000,00	6,800,00

And have left for purchase of apparatus, contingent expenses, &c. $8,825,00

Therefore, if these estimates are correct, or approximate near the truth, it will be seen, that although the first cost would be much more than for a school alone, built in a corresponding manner, the expenses ever after would be much less. That the earnings of the apprentices, or scholars, would more than pay their board, the interest on the investment, and teachers' salaries; so that should it be thought best, apprentices could be taken without the payment of anything, and still the institution accumulate a small contingent fund.

The advantages of such a school to its scholars and the public can be hardly estimated; they would be "trained up" in habits of industry—the mind and body strengthened together, and at the age of 21 would graduate, finished workmen and finished scholars. There is no good reason why they should not be so well educated as those who have spent the same length of time in college.

Would such a school be valuable? Are these the suggestions of common sense, or are they the workings of immagination? Let us have the views

of others upon the subject. We should like to see them favorable; but if we cannot get a second, let us hear what can be said against it.

ORGANIZATION OF INDUSTRY.

BY MEMBERS OF THE ASSOCIATION.

In our last paper we promised to go into the details of Fourier's system in a subsequent number. But, in proposing a reform in the present system, it behooves us to revert to the evils now existing. Although we shall undoubtedly draw down upon our heads the anathemas of all those who profess to be satisfied with the present state of things, yet we shall not shrink from the task, but boldly assert, in the face of the world, that society is and has been for the last fifty years looking backwards instead of forward, both in our social and political relations, as if we had reached the very acme of perfection.

The greatest achievements for good or evil on earth have been accomplished by *combination* of human efforts, but only for the benefit of one or a few. With the triumph of political liberty this powerful agent, combination, always hitherto directed against the welfare of the masses, excited a natural jealousy, which overlooked the possibility of changing its direction. It is now *known* that its direction can be changed, and that knowledge is founded upon calculations (and experience, of late years,) as unerring as any other deductions from the book of nature.

Is it not a reproach to the boasted civilization of the age, that in the most civilized countries industry, labor, the only instrument by which wealth and happiness can be obtained, is left without organization or direction, while for the conservation of a moiety of its productions, and for the decision of claims to other moieties, we possess such ponderous, elaborate and expensive establishments.

Does any man believe that it is now and shall be forever necessary that one able bodied man willing to labor shall not find it to do? Does any man believe it is necessary, and shall be so forever, that some of our fellow beings must starve, or endure privations terrible to the lowest animal existence, because of contraction in our circulating medium, or even of its entire destruction? Does every man believe that it shall always be necessary that every young person, in the outset of life, shall depend upon chance, fortune, or any other false gods for his prosperity, or that there *can* be no other security for the quiet enjoyment in age of the fruits of a well spent life? Does any man hope that the accession of this or that party to political power will guarantee this security? We answer, for ourselves, NO—and we believe that every man who gives the subject as much reflection will be of the same opinion.

In a future number we will point out more explicitly the various evils society now endures. At present we would call the attention of your readers to the advertisement, on another page, of the lecture of Mr. Brisbane, upon the Practical Organization of Association, on Thursday next, at the Washington Temperance Hall, where the Albany Fourier Society will in future hold their meetings. A general invitation is extended to the public.

In the last line of our article in your last number instead of "Oh, happy, with," &c., read, "Oh, happy *earth*," &c.

We subjoin below the Constitution of the Sylvania Phalanx, as it will throw much light on the subject of Association.

CONSTITUTION.

1. This Association shall be called the Sylvania Phalanx.

2. The Capital Stock shall be $100,000 (with privilege of increase,) divided into shares of twenty-five dollars each.

3. The officers of the Association shall consist of a President, Vice President, Treasurer and Secretary.

4. There shall be an Executive Council, which shall have the general supervision of the affairs of the Phalanx.

5. Ownership of Stock and permanent residence on the domain, shall be necessary to constitute a person a MEMBER of the Phalanx.

6. Labor shall be paid on a graduated scale of compensation, according as it shall be considered more or less repulsive, necessary, useful or agreeable.

7. Members shall be at liberty to pursue any branch of employment they may select; but all labor performed shall be for the benefit of the Phalanx, and shall be carried on on the domain, or under the direction of the Association.

8. All disputes shall be settled by arbitration; each party choosing one, and the two thus chosen shall select a third referee. An appeal my be made to a Supreme Court, convened for the purpose, whose decision shall be final.

9. Children under 10 years of age shall be at the charge of the Phalanx, and under the direction of the Executive Council.

10. Women shall receive five eighths of the wages of men and children, from the age of 10 to 15 one-third, and from 15 to 16 years age, one half the wages of men.

11. All balances due to members at the annual settlement of the affairs of the Phalanx, shall be credited the parties as stock.

12. Each branch of industry shall elect a Chief, who shall be, ex officio, a member of the Executive Council.

13. The Association shall provide a Libary and other suitable apartments for public exercises and amusements.

14. The legal interest accruing on Stock shall be paid annually; but no dividend arising from increased value of the domain shall be paid in cash, within two years after taking possession of the domain. Such dividends shall, however, be declared annually and credited the members, pro rata, as Stock, during the suspension of cash dividends.

15. This Constitution shall be regarded as a provisional government, to be altered or amended by a majority of members.

BY-LAWS.

1. The President shall be the representative of the Phalanx, and shall, in conjunction with the Executive Council, exercise a general supervision over the affairs thereof.

2. The Secretary shall keep a record of the transactions of the Phalanx, and have charge of all its papers. He shall make a chronological entry of all matter deemed worthy of note by the Executive Council. But he shall not have any thing to do with its pecuniary matters.

3. The Treasurer shall receive all moneys paid to the Phalanx, and place them as directed by the Executive Council; and no money shall be paid except by order from the said Council countersigned by the President.

4. All appropriations of money exceeding the sum of five hundred dollars, shall be approved by a vote of a majority of the Stockholders, voting according to the number of their shares.

5. The Clerk of the Association shall keep the accounts of the Phalanx with the world, and those between itself and the members thereof, and shall, at the expiration of the year, present a full report of the whole.

6. The Executive Council may appoint an Inspector General of all the property of the Phalanx, whose duty it shall be to watch over it and provide against loss or damage.

7. The Executive Council shall, at the request of a majority of the members of the Phalanx, appoint persons to preside over such departments as are not otherwise provided for, and shall fix their compensation according to the nature of the duties imposed.

8. The Edifice of the Phalanx shall be leased according to an assessment of the various apartments, yielding in all an annual rent, of ten per cent on its cost.

9. Members desirous of taking their meals in their own apartments, may do so at such extra charge as the Executive Council shall determine.

10. Young women shall be entitled to vote at the age of 15, and young men at the age of 20.

11. A group shall be appointed every week for the discharge of contingent duties.

12. Aged and infirm members, and those who may receive injury by accident, shall be at the charge of the Phalanx, provided the Stock owned by every such person shall not exceed the sum of fifty dollars.

13. The officers of the Association and of the Executive Council shall be elected by the members by ballot annually; the first election to take place after forty persons shall have become associated.

14. There shall be regular monthly meetings of the Phalanx.

Special meetings may be called by the President at the request of five members of the Phalanx.

CATSKILL MECHANICAL SOCIETY.

We have received the following account of this society from the corresponding secretary, Mr. C. S. Willard.

On the 24th of Dec. 1802, the mechanics of the village convened at the house of Francis Botsford, and adopted a constitution. The number of persons who then received certificates of membership was 24, one of whom, Mackay Croswell, remains still a member. The number of members since the commencement is about 140, including 24 present members. In 1807 the society obtained from the legislature a charter, which has been renewed or extended several times.

The officers of the society are: a president, vice president, treasurer, secretary, and a board of five directors. In connection with the society is the Apprentices' Library, formed by the joint efforts of the citizens and the society. The library has its board of directors, which board is governed by laws and rules of order enacted by the society.

The object of the society is, as set forth in the preamble to the charter: "A desire to associate by solemn compact for the purpose and design of promoting among themselves mutual friendship, confidence and good understanding; to prevent, as far as possible, litigation and disputes; to promote mechanical knowledge and respectability; to afford relief to indigent members," &c.

In affording relief to indigent members, the society has expended considerable, i. e., in making donations directly to them, and also by schooling their children, &c.

A CHILD SENT ADRIFT IN A SACK!—There was quite an excitement raised yesterday morning, in the vicinity of Andrew's street bridge, in consequence of a certain "heap," which was discovered floating down the river on a cake of ice. It was soon made out to be a sack, and from its tremulous motion, voted at once to contain a living child, whose hardhearted parents had sent it adrift, for the purpose of finding death below the falls.

By great exertion on the part of the assembled hundreds, the ice cake was towed ashore, and the sack at once unloosed, when the benevolent lookers on were startled by successive salutes of "Spe-ugh! spe-ugh!! spe-ugh!!!" and out sloped a hale and hearty Tom cat, and made for cover, without even stopping to thank his deliverers! Considering the high-wrought excitement which preceded the denouement of the affair, it must be conceded to have been highly ludicrous—*Roch. Democrat.*

The coward driven to dispair, leaps back into the face of danger; and the tame stimulated to exertion, and aiming at experience, puffs spirit into flutter; or tears the garb of passion and flourishes the rags.

KNOWLEDGE FOR THE PEOPLE.

BY JOHN TIMBS.

MECHANICS.

Why do the great domes of churches resemble simple arches?

Because they have strength on the same principle, being in general, strongly bound at the bottom, with chains and iron bars; to counteract the horizontal thrust of the superstructure; this binding, in truth resembling a pier all round. St. Peter's at Rome, and St. Pauls in London, are fine examples; as is also the large fir roof of the Basilica of St. Paul's. At Rome, the trusses are double, and placed fifteen inches asunder, which gives it, probably, more stability than if they were strapped and bound into single masses.

Why is the Gothic or pointed arch so universally admired for its strength and beauty?

Because it bears the chief weight on its summit or key-stone. Bishop Warburton, in his *Divine Legation*, supposes the Gothic arch to have been taken from an avenue of trees. Hence the "high o'er arching groves," and "the verdant portico of woods," of Milton and Thomas; Cowper says,

> ———"The grove receives us next,
> Between the upright shafts of whose tall elms," &c.

In Bechworth Park, Surrey, is an avenue of gigantic elms; its length is 350 yards, resembling the *nave of a cathedral*; the trees form, on the outside a vast screen or wall of verdure; within, the branches, meeting at a great height in the air from the opposite rows, form "Gothic arches," and exclude every ray of the meridian sun.

Why does the arched form bear pressure so admirably?

Because, by means of it, the force that would destroy is made to compress all the atoms or parts at once, and nearly in the same degree. The whole substance of the arch therefore, resists almost like that of a straight pillar under weight, and is nearly as strong.

The strength of the arched form is exemplified in the well-known experiment of the bottles, containing only air, and corked, being let down into the sea, and drawn up filled with water, and the cork driven in below the neck of the bottle. Thus, if the bottle have flat sides, and be square bottomed, it will be broken by the pressure; but, if it be round, it will be more likely to resist the pressure and have the cork forced in. The shape, in this case, is condusive to strength,—partaking of the qualities of an arch.

It is not known at what period the arch was invented, but it was comparatively in modern times. The hint was probably taken from nature; arched rocks being among the interesting wonders of the earth. At Lewis, in the Hebrides, is a stupendous specimen of curved gneiss, (a primitive rock in which metals mostly abound) which has the bold symmetry of the Saxon arch. It is a matter of surprise, that, with so many specimens in nature, the form was not adopted earlier. The human skull is another specimen of the arched form; and the strength thus obtained, explains the unseeming impossibility of breaking an egg by pressing it endwise between our hands; again, what hard blows of the spoon or knife are often requisite to penetrate the shell. "The weakness of a similar substance, which has not the arched form, is seen in a scale from a piece of free-stone, which so readily crumbles between the fingers."

It is generally admitted, that the early Greeks were unacquainted with the principle of constructing the arch, and that neither the Indians nor Egyptians were acquainted with it. In Egypt, however, the monuments of which country are more ancient probably than any other on the face of the globe, the form of the Roman arch was well known, as is tested by remains of passages *cut out* in stone. Among the ruins of Thebes, sun-dried brick-buildings have been found to contain *constructed* arches, which may be refered to an age coeval with Thebes itself, as well as to any later period. In the oldest buildings of the Hairan, are round and pointed arches, cut out and constructed; so that the arch may be carried back to the earliest period at which these fertile plains were first peopled by a race dwelling in houses; and this we know to have been as early as the time of Job, or even before, as in this day, his sons and daughters feasted luxuriously in *houses*. It is not, however, to be necessarily inferred from this, that the Romans borrowed the form of the arch, or the principle of its construction, from the East, since these might both have existed in this quarter at an early period, and yet have been discovered in Italy at a much later date, without any knowledge of its existence elsewhere,—*Abridged from Buckingham's Travels.*

REPORT OF THE COMMISSIONER OF PATENTS.

We continue our extracts from this report, which contains much curious statistical information not elsewhere to be found, and which will be interesting to all.

Cotton.—This, it is well known, is the great staple product of several states, as well as the great article of our exports, the price of which in the foreign market, has been more relied on than any thing else to influence favorably the exchanges of this country with Great Britain and Europe generally. The cotton crop of the United States is more than one half of the whole world. In 1834, the amount was but about 450,000,000 of pounds; the annual average now may be estimated at 100,000,000 of pounds more; the value of it for export at about $62,000,000. The rise and progress of this crop, since the invention of Whitney's cotton gin, has been unexampled in the history of agricultral products. In the year 1783, eight bales of cotton were seized on board of an American brig, at the Lievrpool custom house, because it was believed that so much cotton could not have been sent at one time from the United States! The cotton crop of 1841, compared with that of 1839 and 1840, was probably less, by from 500,000 to 600,000 bales. In the early part of the last cotton-growing season, an average crop was confidently anticipated; but this hopeful prospect was not realized. In portions of the cotton-producing states, as in parts of Georgia, however, the crop was greater than usual; and in Arkansas it has been estimated at a gain over that of 1839, of 33⅓ per cent; but probably, owing to its having suffered from the boll worm, it should be set down at 20 or 30 per cent. A similar advance is expected in future years, among other causes, from the great increase of popnlation by emigration. Mississippi, Georgia, Louisania and Alabalma, South Carolina, and North Carolina are, in their order, the great cotton-growing states. An important fact deserves notice here, on account of the relation which the cotton crop bears to other crops. Whenever (to whatever cause it may be owing) the price of cotton is low, the attention of cultivators, the next year, is more particularly diverted from cotton to the culture of corn, and other branches of agriculture, in the cotton-producing states. As cotton is now so low, and so little in demand in the foreign market, unless a market be created at home it must necessarily become an object of less attention to the planters; and it cannot be expected that the agricultural products of the West will find so ready a sale in the southern market as in some former years. Other countries, too, as India, Egypt, and other parts of Africa, Brazil and Texas, are now coming more decidedly into competition with the cotton-growing interest of our country; so that an increase of this product from those countries, and a corresponding depression are to be expected. The amount of India cotton imported into England in 1840 was 76,703,295 pounds; almost equal to the whole cotton crop of North Carolina and South Carolina, or to that of Alabama, for the past year, and nearly double the amount produced by Tennessee, Arkansas, and Florida, combined; being, also, an increase on the importation of cotton from India, the preceding year, of 30,000,000 of pounds, and, in amount, nearly one sixth of the whole quantity imported during the same year from the United States. From the report of the Chamber of Commerce of Bombay, it appears that, from the first of June, 1840, to the first of June 1841, the imports of cotton into Bombay amounted to 174,212,755 pounds; and the whole India cotton crop is estimated on good authority, at 190,000,000 of pounds. This is a larger quantity than America produced up to 1826, and more than was consumed by England in the same year, and nearly one third of the whole estimated crop of the United States in 1841. From these facts, it is evident that it is becoming more and more the settled policy of England to encourage the production of cotton in India, while it is equally certain that a foreign market cannot be relied on for our cotton, to the same extent as it has hitherto been. An English authority, speaking of the decline of England and of her manufactures, as having commenced a downward progress, in accounting for this decline, attributes the distress in Leeds, and other places, to the landholders, who, by excluding the foreign bread stuffs, have driven foreigners to manufacture in self-defence. This decline, not being confined merely to her old staple of woollens, must, too, operate in the reduction and diminution of cotton exported from this country. The following statement confirms the position now taken:

"In 1824, Great Britain exported to all foreign countries, including the British possessions, of cloths, &c., 567,317 pieces; in 1828, 566,596 pieces; in 1830, 440,360 pieces; and in 1840, only 250,962 pieces. During the same year last named, (1840,) the total manufactured in only one district in Belgium and Prusia, all within a day,s journey of each other, was 333,245 pieces; so that in one district only, there was made more than was exported by Britain to all the world, by 76,233 pieces."

EXPERIMENT BY STEAM.—In the seventh chapter of the fifth book of Agathias, (one of the most distinguished of the Byzantine historians,) under the year 447, are some singularly curious details respecting the expansive force of steam, produced by Athemius, the famous architect of St. Sophia, at Constantinople, and which is probably the oldest experiment of the kind of which we have any account. The following is an abridgement of Agathias's account; Athemius had a neighbor called Zeno, a celebrated rhetorician; their houses joined together in such a manner as only to appear as one. In the course of time a dispute arose between them that ended in a law-suit, in which Zeno pleaded his own cause and gained the victory. Athemius, finding he could not cope with his adversary in eloquence, resolved to give him a proof of his superiority in his own art. The lower part of Zeno's house was so constructed with his as to afford him the necessary facilities for executing his scheme. He procured several large vessels which he filled with water, to which he attached long leathern pipes large enough at the bottom to cover the vessels entirely, and very narrow at the tops, which he fixed to the joists of his neighbor's floor with so much nicety that not a particle of the vapor which ascended could escape. As soon as the water began to boil, it threw up a thick steam, which rose with violence and pressed against the joist with so much force as to cause the floor and whole house to tremble, so as to resemble an earthquake; the servants of Zeno were so terrified as to run into the street.

GOOD FRIDAY.—A barrister being concerned in a cause which he wished to postpone for a few days, asked Lord Mansfield when he would bring it on? "On Friday next," said his lordship. "Will you please to consider my lord, next Friday is Good-Friday?"—"I don't care for that! the better day the better deed." "Well, my lord, you will of course do as you please; but if you do sit on that day, I believe you'll be the first judge who did business on a Good-Friday since Pontius Pilate's time.

ALBANY, SATURDAY, MARCH 18, 1843.

CONVICT LABOR.

We are vexed and disgusted with the conduct of certain journals, of both political parties, and their course in regard to the important question of state prison labor. Since the commencement of this session of the legislature, and more especially since the report of Mr. Cook, we have watched the progress of this question—the one of convict labor—with deep interest. As was anticipated, a thousand extravagant plans and suggestions have been made—it is needless to add, in opposition to that of Mr. Cook. It would be impossible to enumerate them, but we can add, with truth, none have been proposed but that some interested individual, some soulless, miserable speculator, was at the bottom. Mr. Cook, in the progress of his investigations, was literally overrun by these greedy cormorants—all anxious, honest, disinterested souls—to avail themselves of the excitement among the mechanical portions of community, and apply some remedy to the evils of which they complained—which remedy, of course, was the purchase, on the part of the state, of their worthless granite quarry, or valueless lead mine, "interspersed with specks of silver." But, mark the "change that came over the spirit of their dreams" when the result of Mr. Cook's inquiries was known. They then discovered that Mr. C. was prejudiced, that Mr. C. was incapable of forming a proper conclusion!

What next? We have half a dozen hangers-on around our legislative halls, with granite wash dishes and beautiful paper lead mines! We see an industrious clique of lobby members, deeply interested, of course, in the welfare of the mechanics. But they stop not here. The press must be subsidised—and lo! we see appearing in divers and sundry journals in different sections of the state, articles all bearing the indisputable marks of a common paternity, urging and setting forth in glowing language the advantages of certain plans proposed, mostly relating to *that* "Highland granite," or that "lead mine," or that "silver mine," or that soap mine! The motives that dictate all these movements, and which are at the bottom of all opposition to the conclusions of Mr. Cook's report are too apparent—"he who runs may read."

One word in regard to that portion of the press to which we have above adverted. It must be well known to our editorial friends what are the opinions of the mechanics in this matter—opinions formed after ten years of discussion and reflection. These opinions were publicly set forth by the convention of mechanics that assembled in this city last summer. The report of Mr. Cook, than whom we venture to affirm no man is better qualified to judge in this matter, formed after careful examination, confirms and sustains these opinions, by arguments which are unanswerable, and to which no reply has yet been attempted. And yet our city papers catch up, with eager avidity, the wild propositions of interested individuals, or the vague theories of tarry-at-home travelers, written to divide the minds of legislators, or to divert them from the proper course. If the presses are not all subsidized, why is it that articles are so freely published by nearly every paper, calculated to mislead those who are unacquainted with the subject, while the replies to them are never copied, to rebut their pernicious tendency? There is apparently a studied evasion of every thing which has not a tendency to injure the cause of the mechanics, who with difficulty can get a fair hearing, if any at all.

STATE PRISON SUGGESTIONS.

The editor of the *Albany Daily Advertiser*, whose qualifications to judge in the matter arise from a daily journey of ten rods from his own office, has discovered that the conclusions of Mr. Cook in regard to the selection of mines, for the employment of convicts do "not appear to be judicious." He then gives a catalogue of the "judicious" *suggestions* of the owners of inferior mines and stone quarries in various parts of the state, as really "worth the attention of the state authorities." Now it was by accident that the right man was appointed to the commission of examining the mines of the state; one who in the pursuit of his profession had qualified himself for the place, and whose ardor and integrity in the discharge of his official duties led him to continue the labor at his own expense after the miserable pittance allowed by the legislature was exhausted. It is well known by those who know anything about it, that he did his work thoroughly, and that his judgment and conclusions are to be relied on. Those Ezekiel Bacons, whose knowledge of mines and prisons has been acquired in the study and practice of the law, may prate of the judicious suggestions of the owners of stone quarries, but there are others who are satisfied with the experiment in that branch of business which has been made at Sing Sing. There is no need of building new prisons, or transporting convicts back and forth from Sing-Sing to other quarries, daily, as has been suggested, to carry out purposes for which that prison was located there, and for which it might still be appropriated, without any such additional trouble and expense, if quarrying stone was any object. Between the importunities of the owners of stone quarries, and the intermeddling of interested persons to produce confusion, and the suggestions of others who are utterly ignorant of what they write about, it is very likely that any beneficial action which might otherwise be had, will be entirely thwarted.

THE PRISON BILL.

An unsuccessful attempt was made one day this week to make this bill the order of the day for Monday of next week. We are sorry to see this puerile opposition manifesting itself at this hour. The insidious whisperings of "Highland granite," which has been thrusting its stolid, stony face over the desk of every member, have not been without their effect. But, at all events, we hope the subject will be at once met, that the villainous shuffling policy of former years, will not again be enacted, and that, whatever may be its fate, the matter will be fairly, honestly and boldly met. We hope our legislative Solons will treat this grave subject with due respect, and give it that careful consideration which it merits.

OUR ARTISTS.

Not being aware of his residing in this city, we did not, in our notice of our city artists in the Mechanic of last week, speak of Mr. T. K. Van Zandt, a painter of a great deal of merit. Some of his drawings of cattle, &c., in the Cultivator office, are perfect gems. We have seen none of his other productions, but would commend him to public attention. Residence, 328 State street.

We neglected also to speak of Mr. J. Hall, one of the best engravers the country affords, inasmuch as we feared so *late* a notice from us would be valueless. However, as Mr. Buck's vision has *not* yet been verified, we trust even this acknowledgement will not be unacceptable.

By the way, we may add in this connection that it is proposed, in case the world shouldn't be destroyed, to get up an exhibition of works of art, for the purpose of procuring funds for the establishment of a drawing academy, where those who wish to become instructed in this elegant and useful accomplishment can be accommodated. No doubt can be entertained of the usefulness of the plan, and it appears to us that our citizens will second the movement. Let it be tried. "Our hands are up for the motion."

THE COMET.

A great noise has been made for a week or two past about a "*streak*" of light which sundry persons of undoubted veracity protest to have seen in the "hevings." All scientific men describe it as the "zodiacal light," an appearance of frequent occurrence, caused by the reflection of the sun's rays, during the early part of the evening. But others, in whose heads marvelousness is hugely developed, stoutly maintain that it is a "comit," and no mistake, and that it can be seen in the vicinity of the sun, with the naked eye, at noon tide. We have examined the heavens daily, when the sun was clear, with the naked eye and with glasses, but saw no comet or any thing like one. Observations have also been made by scientific gentlemen at Washington, with no better success. It is quite evident, therefore, that the appearance in the western sky, just after sunset, is nothing more than the zodiacal light to which we referred—the asseverations of the Millerites, and the gaping marvelous lovers to the contrary, notwithstanding.

It is nothing more than *sunshine* at the best, and the stories which go beyond this are nothing more or less than moonshine. They can't *com-it* over us, any way.

NEW SHOT.—The experiments tried a few days since in the presence of Gen. Wood and Maj. Baker, resulted in satisfying them of the final success of the hollow shot or shells, invented by Scott and Burdick. The shells are loaded with a composition designed to explode them at the instant of striking any object at which they may be aimed. The effect of a single shot upon a large ship would be to sink her almost instantaneously, and exploding in or near a body of troops it would prove awfully destructive.

ANNESLY'S SYSTEM OF SHIP BUILDING.

Our readers are probably familiar with this subject, from what we have published on it. It would gratify us to see it generally adopted, as we believe it would be after having been fairly tested. We wish to call attention to the following

Report of the Nautical Committee of the American Institute on Annesley's System of Ship Building.

The Nautical Committee, to whom was referred the method of building ships by William Annesley, respectfully report:

That the subject has been thoroughly examined by your Committee, and every facility was afforded them by Mr. Richard V. De Witt of the city of Albany, who has furnished many printed testimonials and accounts of experiments made in this country and in Europe, together with models, plans and drawings. Your Committee have also corresponded with all the persons, who, to their knowledge have either now in use, or have heretofore had any experience in vessels constructed on this plan, requesting particularly any information which might be considered condemnatory or against the principle, with a view to the formation of a more unbiassed and fair judgment. In addition to the printed and written testimonials before the Committee, personal interviews have taken place and verbal explanations have been given, so as fully to testify them; and in all cases your Committee have sought in vain for faults or objections to this system, which could not be refuted or overcome by authenticated experiments or substantial facts.

So much has been written and said in favor of this method, that any thing we now could say would be a mere reflection of what has already gone to the world in print; and therefore a very minute report describing the method or the various experiments that have been made is deemed unnecessary, such information being attainable to all by reference to the Commentary of John L. Sullivan Esq., printed in Troy in 1823. This book contains all the detail of the system with plates from which much information can be obtained; appended thereto are many certificates of naval and practitical *men* both of this country and Europe; among them we find the name of Noah Brown, Henry Eckford and other builders of this city. Ritchet, Hunter and other ship builders of Belfast, with Dupin and other scientific men of France.

The method consists in building the vessel with thin planks in layers alternately crossing each other and each layer made tight with wedges instead of caulking. No timbers are used except such as may be necssary for the resistance of local pressure; as for the support of engines in steam vessels or guns in ships-of-war. All the materiel used is thus made to bear an equal part of the strain and offer resistance in every direction. A course of planking worn through or taken off the side of a vessel would leave the remainder perfectly tight and the ship still sea-worthy, and the fastenings being small and numerous no danger could arise from starting butts, an accident fatal to many ships. The frame of a ship built on the usual plan is a series of heavy timbers set up on end and only held together by the planks that are fastened to them on each side and bolted through, the seams of the outer planks being caulked to prevent the ingress of the water. The weight of the wood in the frame is greater than that of the planking and more bulky, if that wood were slit into boards and they crossed and firmly secured together as is done in the Annesley method, they of themselves would form a stronger vessel, though as used in the ordinary vessel they would alone serve no useful purposes, but would fall apart of their own weight. It is the great weight of the timbers of a ship that renders her liable to bilge and be destroyed the moment she touches the ground or strikes upon a rock, and experience has shown that no vessel however strongly built she may be, can sustain one third of her length unsupported without straining her, and if she lay in such a position any length of time she must be totally destroyed. These timbers are only calculated or intended to resist extended pressure, and when the keel becomes fixed and the water ebbed from a stranded ship, taking away the support or cradle of water in which she lays, they offer no resistance to the internal pressure occasioned by the weight of the timbers, decks, &c—but on the contrary this immense weight pressing down upon the timbers nearest the keel, breaks them off and bursts open the bottom of the vessel. In the Annesley method these timbers are not used, but instead of them perpendicular courses of planks which offer the resistance proportionably greater, acting like the crown of an inverted arch, and in instances when the vessel has run ashore or on rocks, though under circumstances that would have destroyed another vessel, little damage was done, and it may be safely inferred that except in extreme cases an accident of that nature would scarcely prevent a vessel from pursuing her voyage after getting off. Although our own and foreign builders speak favorably of this system, and in so doing concide with those who have sailed the vessels thus built, yet your committee have found a strong prejudice in the minds of many who seem rather to base their opinion upon the vague surmises of others than upon the facts and experience of disinte ested parties. Among naval men the ill managed attempt to build a vessel on this plan by the government, while the method was yet in its infancy has great weight. The United States schooner Experiment was pronounced a failure before she went to sea, and yet no one is found so bold as to say she was not a *stronger* vessel than any other of her class in this or any navy.

From a letter of Capt. Mervine of the navy, who commanded the Experiment, dated November 8th, 1842, now before this committee, we find the prejudice not quite so general as we had before imagined, and that his opinion may have its due force we extract the following:

"The Experiment was deficient in the architectural form neccessary to give speed, which rendered her unfit for a vessel of war, but in other respects she combined all the properties of a good vessel. As a seaboat she was decidely superior to anything I have ever sailed in, and her strength was satisfactorily manifested during a heavy gale in the gulf stream, on my passage to Charleston, S. C. All that is necessary to secure the adoption of the Annesley system, in my opinion, is such a model as will give speed."

It appears by drawings submitted to your committee embracing every possible form from the sharpest pilot boat to the double bottom or low bilge adopted for life boats, that great speed may be obtained more readily by this method than any other, for the weight of a vessel being diminished, her displacement of water is less and the power used will therefore find less resistance and necessarily produce greater speed.

Your committee have gone carefully into an examination of the facility of detecting decay and repair, afforded in the Annesley method. They find that in this as well as in other matters this system has an advantage over the old method

A general and extended weakness which would totally condemn another vessel, may be remedied by taking three or more of the old courses and repairing them with new, or by putting on a course or two of planking, and securing it to the old, this might be done by an ordinary carpenter in any place where the lumber could be provided, without docking or, if spare material were on board it might be done at sea by shifting ballast &c. So also a shot hole might be speedily repaired by removing the outer and inner courses far enough to give a sufficient lap, smoothing the hole, plugging it and covering it with new planks in the place from whence those broken had been removed. It may be proper to mention that sides and bulwarks built in this way, would of course splinter less and thereby save half the risk of life in a naval action. This important consideration alone, should in the opinion of your committee recommend that system as not only individual life, but the honor of the flag, and that of the country, might be less liable to be endangered.

Your committee would also submit that in their opinion the Annesley system is peculiarly deserving of a fair experiment and trial by underwriters. From the facts heretofore mentioned, there can be no doubt that the risk to vessel and cargo must be greatly diminished, and especially so to the cargo, which could hardly be damaged by leaks, arising from the ordinary accidents of straining and laboring in a heavy sea. In an Annesley vessel faithfully constructed with hatches well secured, damage by water to the cargo would be as unlikely as to the contents of a tight cask or puncheon afloat in a gale. It would certainly seem worth some venture on the part of our great insurance companies, to ascertain thoroughly the fact whether the chances of injury to life and property are not exceedingly diminished, by the adoption of a system which seems to have been so amply tried, if the most veracious testimony can be credited, and in all points to have sustained the high character challenged for it by its advocates.

The same is respectfully submitted

New York, Feb. 8th, 1843.

The aforesaid is a true copy of a report made by the nautical committee of the American Institute, Feb. 9, 1842.

Attest

GURDON J. LEEDS,
Recording Secretary.

INTELLIGENCE.

Cornstalk Sugar.—The manufacture of sugar from cornstalks has been attempted with success in several parts of the United States. The Cincinnati Chronicle notices a specimen produced in Wayne county, Illinois. It states that the sugar is well grained, and as good as the New Orleans sugar. It was made with the simplest kind of machinery, constructed by a carpenter, and the process is said to be easy. The calculation is, that a *thousand pounds* of sugar may be made from an acre of corn. At this rate, the bu-

siness will be profitable, and cannot but open a new and vast source of production to the West.

The Mechanics Institute of New York, have resolved to hold a fair this year at the Apollo, in Broadway.

Rotary Knitting Machine.—Six of these ingeniously constructed machines can be seen in full operation at Marlboro' Chappel, every day and evening propelled by *dog power*. They are capable of turning out a great amount, daily, of work elegantly finished. Stockings, gloves, &c. are perfected entirely without seam. A great number of persons visit the chapel every day for the purpose of seeing the operation.—*Boston Mail.*

The Powhattan Mansion House, at Richmond, Va. occupied by Robert A. Mayo, Esq., said to have been built on the site of King Powhattan's wigwam, was burned down a few days since. It was insured for $10,000, which was not sufficient to cover the loss.

A man that would call every thing by its right name, would hardly pass through the streets without being knocked down as a common enemy.—*Halifax*

A Lizard seventy feet Long!—A correspondent of the Evening Post says that there has been in this city for nearly a year past, the fossil remains of Zygodon, or Lizard, 70 feet long,—a gigantic reptile belonging, as geologists say, to a period of the earth's history when it was unfit for creatures of a higher organization. These remains were found in the tertiary formation of Alabalma, on the plantation of Judge Creag in Clark county, by Mr. S. B. Buckley, a native of this state, who was then engaged on a botanical excursion. They were brought to this city last April. Some idea of the appalling magnitude of this animal may be formed from the fact, that its fossil remains fill fourteen large boxes! Some of the large vertebræ weigh perhaps each, one hundred pounds, diminishing down to the extremity of the tail, the last of them not being larger than a man's fist. On the vertebræ and some of the other bones, there still exists, in a perfect state, the periostem or covering of the bones, their substance being more or less fossilized into carbonate of lime. All the teeth, covered with their enamel, are still perfect, The head and jaws are six or eight feet long, and the ribs have a length of six feet. Dr. Harlan, of Philadelphia, took to London, several years ago, a few of the bones of a similar animal, obtained from the same place.

A Yankee writing from the west to his father, speaks of its great matrimonial facilities, and ends by making the following suggetion: "Suppose you get your girls some new teeth and send them out."

A Collision.—The steamboat Gen. Gaines, whilst proceeding up the Alabama river on the night of the 22d ult. came in contact with a flat boat with a cargo of three hundred bales of cotton. The greater part of the cotton was lost, and the Gen. Gaines was much injured.

The steamboat General Pike, engaged in the trade between Cincinnati and New Orleans, struck a snag in the Mississippi last week, and sunk. The Gen. P. was owned by the officers on board, and insured in Cincinnati, at which place she was built in 1840 at an expense of $30,000. She had a full cargo of produce at the time of the accident.

Temperance.—The total number of persons, members of different temperance societies in this city at the present time is *thirteen thousand four hundred and forty-seven!* In the month ending 9th ult., the increase of members amounted to seven hundred and thirty.

Inman, Huntington, May, Page and Harding have gone northward, to paint the portrait of the ex-governor Seward. Higest prize, $1,000; lowest, $200. This is the right way; every artist gets paid for his talent, though it may create a little heart-burning. Old and young artists contending—expect a crash!

The Ohio Chronicle say a man dined at a hotel, in Race street, and after eating the whole of a young pig, was asked if he would have some pudding. He replied that he did not care much about pudding, but if they had another little hog he would be thankful for it.

Fine Thread.—Mr. Phineas Stevens of Nashua, has given to us, says the Telegraph, a specimen of cotton thread, spun upon a machine of his invention, which numbers as high as 125,—one pound of which would extend 105,000 yards, or nearly six miles.

A single establishment in Ohio manufactures silk to the amount of $1,000 per month, and advertizes to pay $4 a bushel for all the cocoons which may be offered.

Barque *Levant*, captain HALL, arrived at the Breakwater in Delaware bay on Sunday. The hull, as far as could be seen, was *completely encased in solid ice, to the thickness of some four or five feet.* several of the hands are said to be badly frost-bitten. The L. is from the West Indies.

Gold.—A vein of gold 4 feet thick, from which two hands in three days raised 100 bushels of ore, worth $10 a bushel, has been discovered by Dr. Stephen Fox, near Mecklenberg, Va.—*Pittsburg Sun.*

We notice, by the English papers, that Greathead's English Life Boat, after taking the crew from the wreck of the William & Anne, lost off the English coast on the 6th ult., swamped and drowned every soul on board of her. We understand that Francis's American Life Boat is of a totally different construction.—*Tribune.*

The Cincinnati Gazette announces the loss of the steamers General Pike and Amazon. The former had a full cargo of produce, cost at Cincinnati, $30,000. The Amazon; engine and furniture will probably be saved, but the boat and much of the cargo will be lost. She cost $24,000.

LECTURE.

A free lecture will be delivered before the *Albany Fourier Association*, by A. BRISBANE, of New York, at the Washington Temperance Hall, corner of State and South Pearl streets, on THURSDAY EVENING, the 23d inst., at half past 7 o'clock. SUBJECT—*The Practical Organization of Association, considered as the best and most Practical means of Elevating and Improving the Social Condition of Man, preceded by a brief view of the Destiny of Man upon Earth.*

The public are respectfully invited to attend. The front seats will be reserved for the ladies.

UTICA RESOLUTIONS.

At a meeting of the Mechanics' Association, held at their room, in Mechanics' Hall, on the 8th of March inst., the following resolutions were unanimously adopted:

Resolved, That the present system of employing the convicts in our state prisons is subversive of the rights and destructive to the interests of the mechanics of the state, and ought to be abolished.

Resolved, That the honorable the legislature be respectfully requested to pass a law at the present session in accordance with the report of Mr. Cook, made to the legislature on that subject.

Resolved, That the above resolution be transmitted to the chairman of the committee on state prisons, of the assembly.

HENRY CRANDELL, *Rec. Sec.*

Utica, March 8, 1843.

TO HOUSE BUILDERS.—FOR SALE—an IRON SCREW AND BOX, suitable to be used in removing or raising buildings. Inquire at Blackall's, corner of Hamilton and William streets March 18.

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ALBANY.

WOOD ENGRAVING.

N. ORR, (late pupil of J. H. Hall,) is now prepared to execute any orders in the above business, which he may be favored with, and respectfully solicits a share of patronage.

Room No. 6, 3d floor, Exchange.

Having made arrangements with Mr. N. Orr, to do my wood engraving, I recommend him to the public as one who understands his business and will doubtless give satisfaction.

JOHN H. HALL.

Albany, Feb. 1st, 1843.

LEATHER, OIL, AND FINDING STORE,

No. 18 Hudson Street.

J. HOCHSTRASSER,

Will continue the above business at his old stand, and having made arrangements with manufacturers of Leather and Morocco in the cities of NEW-YORK, PHILADELPHIA, and ALBANY, and having in his employ first rate workmen, he is enabled to supply his customers with all the articles in his line on the most reasonable terms, at *Wholesale* or *Retail*, the following are included in his assortment: Oak and Hemlock Harness, Bridle, Collar, Horse, Trunk, Valise and Skirting Leather; Hog Skins, Philadelphia Russet Bridle, do. Facing Skins, do. Lining Hides, do. Top Hides, Patent Leather, Coach Roans, Neats Foot and Liver Oil, Currier's Tools, Oak Sole Leather, Hemlock do., Wax and Grain Upper Leather, do. Calf Skins, Keen's Philadelphia do., Seal and Kip Skins, Splits and Welt Leather, Cordovan, Red, Green, White and Yellow Linings, Goat and Sheep Binding Skins, White Alum Dressed Linings, Dressed and Undressed Morocco, Colored Goat and Sheep Skins, English Shoe Thread of all numbers, India Rubber and Patent Cloth, Apron Skins, Stock Binding, &c.

N. B. An assortment of SHOE MAKER'S FINDINGS will be kept on hand.

Also, *Roller Skins, Engine Hose, Band, Picker, String*, and *Patent Leather*, on hand and made to order. *Albany*, 1841.

To Cabinet-Makers and Upholsterers.

DANIEL FRY, No. 40 State street, *Importer of Cutlery and Hardware*, keeps constantly on hand a good assortment of HAIR SEATING and CURLED HAIR, together with a complete assortment of *Cabinet Makers' Hardware*, which is offered for sale low for cash or approved credit.

FIRE ENGINES!!

THE subscribers are manufacturing at Waterford, on an extensive scale, Fire Engines of various patterns, to suit purchasers, and they do not hesitate to recommend their Engines as decidedly superior to any now in use.

They manufacture the common Piston Engine, to work with chains or connecting rods, which they have improved in the construction of the brakes and the application of the power, so as to give them a decided advantage over those now in use. They also manufacture Rogers' Patent Balance Fire Engine, which has always been proved to be of *superior* power to all others.

Prices at the Factory, in complete order for use:

Those designed					
For 40 men,	largest	Philadelphia	size or 11 inch	chambers,	$850
" 28 "	"	Albany	" 8 1-4	"	700
" 22 "	"	Common	" 7	"	600
" 16 "	"	N. York city	" 6 1-2	"	53[illegible]
" 12 "	"	Small	5 1-2	"	450

These prices are one hundred dollars below what engines have formerly been sold for, but they are reduced to suit the times.

The above prices can be reduced $50, by dispensing with the tower and goose neck and passing the water through the forward end of the machine. The *utility* of such an engine is fully equal to any other form, but its appearance is not quite so good. They also manufacture Factory Engines and Forcing Pumps of all sizes; Suction and Leading Hose to order, both rivetted and sewed, of the best quality.

They have been in the business 8 years, and might furnish many testimonials of good workmanship, &c., but as purchasers are supposed to prefer judging for themselves, the subscribers will furnish an engine where desired, and if on trial it is not fully equal in *all* respects to the *best* engines now in use, they will take it away without charge. Having an unlimited water power situated at the head of sloop navigation on the Hudson river, and near the junction of the Champlain and Erie canal, with a rail road connecting east with Boston and west with Buffalo, our facilities and arrangements for manufacturing are such that orders can be filled at any season of the year, and with the greatest promptness and despatch at the lowest rates.

L. BUTTON & Co.,

Waterford, Saratoga Co., N.Y.

MISCELLANY.

THE FALL OF THE OAK.

BY G. HILL.

A glorious tree is the old gray oak,
He has stood for a thousand years,
Has stood and frowned,
On the woods around,
Like a king among his peers.
As round their king they stand, so now,
When the flowers their pale leaves fold,
The tall trees round him stand, arrayed
In their robes of purple and gold.

The autumn sun looks kindly down,
But the frost is on the fen,
And sprinkles the horn
Of the owl, at noon
As she hies to the old oak tree.
Not a leaf is stirred,
Not a sound is heard,
But the thump of the thresher's flail;
The low wind's sigh,
Or the distant cry
Of the hound on the fox's trail.

The forester, he has whistling plunged
With his axe, in the deep wood's gloom,
That shrouds the hill
Where, few and chill,
The sunbeams straggling come:
His brawny arm he has bared and laid
His axe at the root of the tree,
The old gray oak,
And, with lusty stroke,
He wields it merrily:

With lusty stroke,
And the old gray oak,
Through the folds of his gorgeous vest
You may see him shake,
And the night owl break
From her perch in his leafy crest.
She will come but to find him gone from where
He stood at the break of day;
Like a cloud that peals as it melts to air,
He has past, with a crash, away.

Through the spring in gloom and the frost gold
No more his limbs attire,
On the stormy wave
He shall float and brave
The blast and the battle fire!
Shall spread his white wings to the wind
And thunder on the deep,
As he thundered when
His bough was green
On the high and stormy steep.

AVALANCHE IN FRANCE.—The village of Valcenestre in France, was recently visited with a calamity similar to the one which lately befell Troy, in New York.

The avalanche after reaching the foot of the mountain, was carried over a space of several hundred yards, by its own impetus, before it could reach the village, and then covered it with snow and timber, and pieces of rock, borne down with it in its course, to the depth of from twenty to thirty feet, burying eighty two persons beneath its weight. Of these; seventy-two have been dug out unhurt, but the ten others perished. To accomplish their release, appertures were made over the chimneys of the houses, and through them the living were drawn up; but the dead were not reached until transversal cuttings could be made. Several animals were also saved alive. The avalanche made so little noise in falling, that the inhabitants who did not suffer from it, were not aware of the disaster till seven o'clock the next morning, three hours after it happened; and even those who were caught by it, believed it only to be a heavy fall of snow that had crushed their roofs, and stopping up their doors and windows, waited patiently till day, expecting their neighbors to come to their assistance.

STATUES MADE USELESS.—Mecedelia, a medical student at Verona, in Italy, has revived, it is said, Segato's famed process of petrifying human bodies, which died with that artist. The king of Naples has in his palace a table made by Segato, which is entirely composed of different parts of the human body petrified, and precisely as marble or any other stone might be. A remarkable circumstance is that all the natural colors of the skin, arteries, veins, muscles, bones, &c., and all the states of disease causing death, are unalterably preserved.

GENIUS VS. LABOR.—"Of what use is all your studying and your books!" said an honest farmer to an ingenious artist, "they don't make the corn grow, nor produce vegetables for the market. My Sam does more good with his plough in one month than you can do with books and papers in one year."

"What plough does your son use?" said the artist quietly.

"Why he uses———"s plough, to be sure. He can do nothing with any other. By using this plough, we can save half the labor, and raise three times as much as with the old wooden concern."

The artist quietly again turned over one of his sheets, and showed the farmer a drawing of his laudable plough, saying, "I am the inventor of your favorite plough, and my name is ———."

The astonished farmer shook the artist heartily by the hand, and invited him to call at the farm house and make it his home as long as he liked.

ULTIMATE SUCCESS OF GOOD SCHEMES.—Many schemes ridiculed as Utopian, decried as visionary, and declaimed against as impracticable, will be realized the moment the march of sound knowledge has effected this for our species—that of making men wise enough to see their true interests, and disinterested enough to pursue them.—*Lacon.*

PROGRESS OF MACHINERY.—As an instance of the progress of machinery, we can state, that the principal manufacturing concern in this town will, after the whole of the contemplated improvements are completed, have, besides other machinery, 1440 power looms, each of which will be able to produce weekly six pieces, of twenty-five yards making a weekly aggregate of 122 miles and 280 yards of cloth.—*Preston Chronicle.*

CONFUSION OF TONGUES.—It is said that at the last meeting of the Propaganda society at Rome, addresses were delivered in no less than 48 different languages by its initiates.

He who treats you with all the figures of a subject save the principal, is as civil or important as he who invites you to dine with all a nobleman's family, the master only excepted; this sometimes may be no loss, but surely you cannot be said to have dined with the chief of the family.

Affecation cannot excite sympathy. How can you feel for him who cannot feel for himself.

BUSINESS NOTICES.

☞ All letters and communications intended for this paper should be *post paid to secure attention.*

Terms for vol. 2.—To clubs of 20 or more, having the paper sent in one package, $1 each per annum, in advance.

To clubs of not less than 5, sent as above, $1.25 each, in advance.

Single subscribers $1.50, in advance.

Members of the state and county or town associations, subscribing through the secretary, are entitled to the paper at $1 per annum, in advance.

All papers discontinued at the expiration of the time paid for, unless previously renewed.

BINDING.—Subscribers wanting their volumes bound, can have them done in any style and at reasonable prices, by leaving them at this office.

Several volumes of the Mechanic left to be bound some time since are now ready for delivery. The owners are requested to call for them.

To Printers.—FOR SALE CHEAP, a Fount of second hand Pica, about 200 lbs., in good order. Also a quantity of Leads, of different lengths, as good as new. J. MUNSELL.

Wood Engraving and Designing.

E. FORBES is prepared to attend to all business of the above description at the *Sculpture Rooms* 17 Stanwix Hall.

BOOK BINDING.—HARVEY H. CORNING, sign of the golden ledger, 82 State street, Albany, carries on the above business in all its various branches, viz: PLAIN, EXTRA and SUPER EXTRA—has a first rate RULING MACHINE and other necessary implements for manufacturing BLANK BOOKS of every description, on the most reasonable terms, of the best materials and workmanship.

N. B. An assortment kept on hand. 27.

PATENT AGENCY AND MECHANICAL ENGINEERING, *Office on F street, between 7th and 8th streets, opposite the Patent Office, Washington City, D. C.*—The subscriber has resigned his situation in the patent office (where he for some time superintended the restoration of patents destroyed by fire in 1836) to devote himself to the preparation of specifications and drawings, and all matters connected with the obtaining of patents for useful inventions either in this country or Europe. His experience in theoretical and practical mechanics, together with an intimate knowledge of the progress of the useful arts and manufactures, at home and abroad, will enable him to judge of the novelty and utility of inventions submitted to his examination and as patents are not granted, under the existing patent laws, when the alleged inventions are wanting in novelty, or contravene the established laws of science, he will be able to furnish all the information necessary to avoid the expense of making application for patents which could not be granted

Having established a foreign correspondence, he will be able to secure patents in Great Britain, France, and other parts of the continent, or furnish information, and prepare all the necessary papers for that purpose.

A model for a machine or apparatus, or specimens for a composition of matter, are required by law, before a patent can issue; by sending a model or specimens to the subscriber, with a short statement of the object of the invention, the necessary papers and drawings will be prepared and forwarded to the applicant for execution, thereby obviating the expenses consequent upon a journey to Washington, or delay in issuing the patent.

Being well acquainted with the patent laws of the United States, England and France, and the decisions of the courts in patent cases, he tenders his services where information is required in reference to infringements of patents, or defence against suits for infringement, such as compiling and arranging evidence. &c.

To individuals and companies wishing to procure drawings and estimates of machinery, or buildings, for manufactories, on the most modern and improved plans, or any other matter connected with mechanical engineering, he will furnish information; and, should it be required, will locate and superintend structures of this description.

Wishing to be generally useful to mechanics and inventors, he will attend to the sale of machinery and patent rights; this, being a place of resort from all parts of the Union, is perhaps the best location for such a purpose.

Papers relating to patents can be sent to the commissioner of patents, when voluminous, free of postage, and models sent to the collectors of the principal ports, will also come free of expense, and the subscriber can be advised thereof by letter, which in all cases must be post paid. All applications for information relating to patents must be accompanied by a fee of five dollars; charges for other business transactions will be made according to their magnitude. J. JAMES GREENOUGH.

Certificate of HON. H. L. ELLSWORTH, *Commissioner of Patents.*

PATENT OFFICE, NOV. 20TH, 1842.

Mr. *J. J. Greenough*, who has for some years been employed in the patent office, in a highly responsible situation, under the act of 1836, restoring the records, having to my regret tendered his resignation, I take great pleasure in recommending him as a gentleman worthy of confidence, and as being particularly qualified to take charge of any business requiring a knowledge of mechanical science, the progress of the arts, and patent improvements. Mr. Greenough is also well acquainted with the practice of this office. HENRY L. ELLSWORTH.

REFERENCES.—Hon. S Prentiss, of *Vt.*, U. S. Senate; Hon. J. P. Kennedy, of *Md.*, U. S. House of Reps.; Hon. John C. Clark, of *N. Y.*, U. S. House of Reps.; Hon. W. Cranch, *Chief Justice, D. C.*; J. W. Hand, Esq., *Chief Clerk, Patent Office*; C. M. Keeler, Esq., *Examiner, Patent Office.*

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NEW YORK STATE MECHANIC,

A weekly paper, devoted to the interests of Mechanics and Manufacturers,

IS PUBLISHED EVERY SATURDAY,

By JOEL MUNSELL,

No. 58 State Steet, Albany,

At $1.50 per annum in advance.